

Please insert Claims 18-44 as follows:

18. An adhesive system for forming reversible adhesive bonds, comprising:

a polymeric adhesive component comprising at least one of polyurethanes, polyureas, or epoxy resins; and

an additional component comprising at least one functional group that can be activated by introduction of energy, such that a chemical reaction with the adhesive component takes place resulting in at least partial breakdown of the adhesive component.

19. An adhesive system according to Claim 18, wherein the additional component is admixed with the adhesive component.

20. An adhesive system according to Claim 18, wherein the additional component is activatable by thermal energy or by radiative energy.

21. An adhesive system according to Claim 18, wherein the additional component further comprises at least one protective group that blocks reactivity of the additional component.

22. An adhesive system according to Claim 18, wherein the additional component is enclosed in a capsule or microcapsule that blocks the reactivity of the additional component.

23. An adhesive system according to Claim 18, wherein the additional component is complexed with an inorganic complexing agents that blocks the reactivity of the additional component.

24. An adhesive system according to Claim 21, wherein blocking of the additional component by the protective group can be eliminated by at least one of thermal energy or radiative energy.

25. An adhesive system according to Claim 22, wherein blocking of the additional component by the capsule or microcapsule can be eliminated by at least one of thermal energy or radiative energy.

26. An adhesive system according to Claim 18, wherein the additional component comprises one or more organic amines.

27. An adhesive system according to Claim 18, wherein the adhesive component is an epoxy resin and the additional component comprises one or more organic acids.

28. An adhesive system according to Claim 26, wherein the one or more organic amines are enclosed in capsules or microcapsules.

29. An adhesive system according to Claim 28, wherein the capsules or microcapsules comprise amino resin.

30. An adhesive system according to Claim 27, wherein the one or more organic acids are enclosed in capsules or microcapsules.

31. An adhesive system according to Claim 30, wherein the capsules or microcapsules comprise amino resin.

32. An adhesive system according to Claim 26, wherein the one or more organic amines is incorporated in a metal halide complex.

33. An adhesive system according to Claim 32, wherein the metal halide complex comprises lithium bromide or sodium chloride.

34. An adhesive system according to Claim 26, wherein the adhesive component further comprises at least one chemically attached structural component, wherein the structural component is selected so that upon activation of the additional component, a chemical reaction occurs with the structural component resulting in at least partial breakdown of the adhesive component.

35. An adhesive system according to Claim 34, wherein the at least one structural component is incorporated by copolymerization into the adhesive component.

36. An adhesive system according to Claim 34, wherein the at least one structural component is a triazine derivative.

37. A process for the reversible bonding of articles and controlled parting of the adhesive bonds between these articles, said process comprising:

preparing an adhesive bond between articles with an adhesive system according to Claim 18;

deactivating the adhesive bond by introducing energy; and

separating the articles from one another.

38. A process according to Claim 37, wherein the introducing of energy comprises supplying heat.

39. A process according to Claim 38, wherein the supplying of heat is by thermal conduction or convection.

40. A process according to Claim 38, wherein the supplying of heat is by electromagnetic radiation.

41. A process according to Claim 40, wherein the electromagnetic radiation comprises infrared radiation or microwaves.

42. A process according to Claim 37, wherein the articles comprise a material selected from the group consisting metal, plastics, glass, textiles, and combinations of these materials.

43. A process according to Claim 37, wherein the articles are components of a motor vehicle.

44. A production line adhesive comprising an adhesive system according to Claim 18.--

IN THE ABSTRACT:

Please delete the Abstract of the Disclosure in its entirety and substitute therefore the attached Abstract.

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